

The comparison of quality of life, self-efficacy and resiliency in infertile and fertile women

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Abstract

Background: Pregnancy and infertility are important life events that are associated with specific psychosocial aspects, and infertility is usually regarded as a stressful and threatening event that is influenced by psychological factors.

Objective: The purpose of this study was to evaluate and compare the quality of life, self-efficacy and resiliency in infertile and fertile women.

Method: This causal comparative study, included all fertile and infertile women referred to Arash Hospital and Mirza Kuchak Khan Hospital in Tehran; 60 infertile women and 60 fertile women were selected using convenience sampling method. To collect data, the quality of life questionnaire (WHOQOL-BREF), Sherer's self-efficacy Questionnaire, and Conner and Davidson's Resilience Questionnaire were used. Descriptive statistics (mean and standard deviation) and inferential statistics (correlation test and regression analysis) were used to analyze the data.

Results: The results showed that mean (standard deviation) of quality of life, self-efficacy and resiliency in fertile women was 86.62 (11.162), 64.40 (9.048), and 71.40 (11.640), respectively. The mean (standard deviation) of quality of life, self-efficacy and resiliency for fertile women was 79.13 (10.829), 58.05 (7.688), and 66.92 (10.339), respectively. The results of t-test showed that between fertile and infertile women, in terms of quality of life, self-efficacy and resiliency there is a significant difference.

Discussion and Conclusion: The results showed that the level of quality of life, self-efficacy and resiliency in infertile women is less than in fertile women. Based on these results, it can be said that considering the importance of psychological factors in exacerbating the physical and mental damage associated with infertility, psychological interventions focused on quality of life, self-efficacy and resiliency with the aim of improving the mental health of the infertile people, is necessary.

Key words Fertility, Infertility, Quality of Life, Self-efficacy, Resiliency

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Introduction

In many countries of the world, including Iran, pregnancy and having a child are generally a positive and welcome event and an important factor in gaining social status and strength of marital life, and infertility is often a great stigma, leading to psychological and social harm. Infertility is defined as lack of pregnancy following one year of intercourse without the use of contraceptive methods (Richard et al., 2014). The World Health Organization (WHO, 2004) estimates that 60-80 million couples experience infertility around the world. In recent years, infertility has risen (Jisha & Thomas, 2016).

In this way, it is estimated that in the world, 8-15 percent of couples may experience infertility (El Kissi et al., 2013). The prevalence of primary infertility in Iran was reported at 24.9% in 2004 (Vahidi et al., 2004; quoted by Jamshidimanesh et al., 2015). Infertility is considered one of the most important stressful events in life and a negative event for couples, which causes interpersonal distress in marital relationships (Rashidi et al., 2008; El Kissi et al., 2013), a serious threat to marriage and the continuation of marital life (Khetarpal & Colleagues, 2012), and in some cases, separates couples (Galhardo et al., 2011).

It seems that the impact of infertility is not limited to marital and sexual relationships, but it affects all dimensions of the individual's life and its effects are imposed on other psychosocial aspects of the infertile people (Chachamovich et al., 2010). Psychological problems are the consequences of infertility (Cwikle, Gidron & Sheiner, 2004). Research on the consequences of infertility has shown that infertility causes emotional disturbances in both women and men and their spouses (Greil, et al., 2011; Faramarzi et al., 2013; Takaki & Hibino, 2014). Infertility is linked to the prevalence of psychological and psychiatric problems, and numerous studies have reported the prevalence of these problems in infertile couples (De Berardis et al., 2014). Anxiety, depression and other psychiatric disorders are reported in couples and people with infertility, and studies report the prevalence of psychiatric problems from 6 to 68 percent (Sule, Gupte & De Sousa, 2017).

In several studies, it has been shown that infertility leads to reduced mental (subjective) well-being (Tovliat & Tamannaefar, 2015), reduced mental health and marital adjustment (Tamannaefar, 2011), decreased quality of life (Xiaoli et al., 2016; Chachamovich et al. 2010; Lau et al., 2008), decreased sexual function (Hassanin et al., 2010; Monga et al., 2004), anxiety, depression and decreased quality of marital life (Matsubayashi et al., 2004), feeling of helplessness and experience of negative emotions (Chandra et al., 2014).

Infertility due to its unfortunate consequences affects people's attitudes about themselves, toward life and the quality of life (Chachamovich et al., 2010) and causes a loss in quality of life (Hassanin et al., 2010; Drosdzol & Skrzypulec, 2008).

Quality of life is one of the most important health components that has received considerable attention in recent years. The concept of quality of life has been defined in various ways. The World Health Organization (WHO) defines quality of life as "the individual's perception of one's position in life, according to the cultural context and the value system of the community in which he/she lives," and considers this concept as a combination of physical health, state of Psychological health, level of independence, social relations, individual beliefs of these factors with environmental characteristics (Ghafari et al., 2012). Several studies have shown that quality of life in infertile women is lower than that of fertile women (Trent et al., 2002; Coffey, Bano & Mason, 2006; Nilfrooshan et al., 2006). It has been shown that the quality of life in infertile people with mental disorders is lower (Van der Akker, 2005; Chachamovich et al., 2010). It has been widely demonstrated that clinical symptoms of depression are related to the outcomes of quality of life (Schweikert et al., 2008; Ohaeri, Awadalla, & Gado, 2009).

Some studies have shown that demographic variables such as age, educational level, weak marital relationships, and the length of lifetime attempts to treat infertility are predictive of the quality of life in infertile people (Fekkes et al., 2003; Ragni et al., 2005; Lau et al. 2008). The study of Chachamovich et al. (2010) has shown that anxiety and depression are associated with a low level of quality of life in the infertile and the effect of depression is greater than anxiety and other clinical variables and socio-demographic factors.

Although numerous studies have shown the negative effect of infertility on the quality of life in infertile women (Fekkes et al., 2003), some studies have reported that there is no difference in the quality of life of the infertile population compared to the healthy population (Hearn et al., 1987). Even some studies have shown that quality of life and marital adjustment of infertile women are higher than fertile women (Onat & Beji, 2012). The attitude towards women's infertility is often influenced by racial differences and religion and culture undoubtedly affect quality of life in some aspects, such as infertility (Inhorn & Buss, 1994).

Another factor that has been addressed in women's infertility is self-efficacy of infertile people. In the case of infertile people, self-efficacy is the perception of patients of their ability to use cognitive skills to control emotions. An infertile person with high self-efficacy has more emotional (affective) stability and more insistence on treatment (Cousineau et al., 2006). Self-efficacy is an indicator of the individual's ability to use stress coping skills and the use of personal resources necessary to meet situational demands. There is some evidence that self-efficacy plays a role in managing illness, symptoms, and functional limitations (Banik et al., 2017). Hence, infertile people with high self-efficacy can maintain calmness. High self-efficacy enhances health behaviors and improves health status, and may even lead to an increased probability of pregnancy (Cousineau et al., 2006). Jamshidimanesh et al. (2015) showed that self-efficacy training for infertile

women had a positive effect and training programs that include familiarity with the reproductive system, definition of infertility, prevalence, causes, diagnostic methods, treatment protocol, and the necessary tests will increase the self-efficacy of infertile women. Sami and Tazeen (2012) reported that the increase in infertile women's information about the causes and treatments of infertility and ways to reduce stress and self-efficacy training can have positive effects and will lead to better healthcare of infertility and to avoid traditional and insecure methods. Considering that studies have shown that infertility is associated with a lot of stress, the issue of resiliency has also been of particular importance, because resiliency is considered as one of the personality traits that play a protective role against life-threatening factors including diseases. Resiliency is the process or ability to adapt to the challenges and threats of life and to overcome them (Newman, 2003). Resiliency is the ability to resist against difficult living conditions and a dynamic process in adapting to important disasters; therefore, resiliency is considered as a positive symmetry of vulnerability (Herrmann et al., 2011). Resiliency focuses on groups exposed to risk factors, but who are faced with few negative consequences and may even have positive outcomes (Tiet & Huizinga, 2002).

Studies have shown that infertile people's resiliency is less than fertile people (Sexton, Byrd & Kluge, 2010; Kagan et al., 2011; Lee et al., 2012). Rezaie et al's (2013) study showed that with increasing resiliency, patients are helped to better deal with harsh conditions. A study conducted by Lee et al. (2012) shows that resiliency can lead to optimism, spirituality, psychic calm and an increase in the quality of life of infertile women. Abbasi et al. (2014) showed that considering the fact that resiliency causes people to reasonably and positively deal with life stresses, they can positively evaluate life events. Therefore, low levels of resiliency in infertile women can reduce their psychological well-being.

Researchers believe that infertility is a life crisis for the couples involved, and others consider it as the most stressful event after a divorce and the death of a dear one (Herrmann et al., 2011). Even if most couples with infertility show that infertility does not have a long-term effect on their life satisfaction, at the time of diagnosis and subsequent treatment, the level of satisfaction is reduced (Verhaak et al., 2007) and can affect many aspects of life including the quality of life. Therefore, the present study was conducted to compare the quality of life, self-efficacy and resiliency in infertile and fertile women.

Method

This study is a causal comparative study. The statistical population of this study consisted of all fertile and infertile women referring to Arash Hospital and Mirza Kuchak Khan Hospital in Tehran. 60 infertile women and 60 fertile women were selected using convenience sampling method. After expressing the research aim for the subjects, they were asked to respond to the questionnaires if they wished.

Subjects were told that the data of the questionnaires were completely confidential. To collect data, Quality of Life Inventory (WHOQOL-BREF), Sherer's Self-efficacy Questionnaire, and Connor & Davidson's Resilience Questionnaire were used.

Quality of life questionnaire

The Quality of Life Questionnaire (WHOQOL-BREF) assesses the quality of life totally and in general, and has four areas of physical health, mental health, social relationships and environmental health. This questionnaire has 24 questions, each of the areas has 3, 6, 7 and 8 questions, respectively. The questionnaire has two other questions that do not belong to any of the areas and that generally assess health status and quality of life. Nejat et al. (2006) have reported the reliability of this scale by Cronbach's alpha method in areas of physical, psychological, social and environmental health, respectively, 0.70, 0.73, 0.55 and 0.84, and after two weeks using test-retest method a coefficient of 0.70. In the study of Kiaei et al. (2016), Cronbach's alpha in all areas was above 0.70 and only in the social relationships was 0.55.

Self-efficacy questionnaire

Sherer's Self-efficacy Questionnaire has 17 items. Sherer (1982) argues that this questionnaire measures three aspects of behavior, including the desire to initiate behavior, the desire to expand efforts to complete a task and being different in confronting obstacles. The scoring of this scale is on a Likert scale from absolutely disagree (1) to absolutely agree (5). Sherer (1982) reported the Cronbach's alpha of this scale 0.76. In the study of Behroozian et al. (2013), the coefficient of reliability of this test was 0.80.

Resilience questionnaire

This questionnaire was developed by Connor and Davidson (2003) to measure the power of coping with stress and threat, and has 25 questions. This questionnaire is scored on the Likert scale from zero (completely false) to 4 (completely true). The average score of this scale is 25, and the higher score indicates the more resiliency. In the research by Samani, Jokar and Sahragard (2006), the reliability of this tool using Cronbach's alpha coefficient was reported to be 0.87. In another study by Bavali et al. (2013), Cronbach's alpha coefficient was 0.83.

Results

Table 1 shows the mean and standard deviation of quality of life, self-efficacy and resiliency in infertile and fertile women, and tables 2, 3 and 4 show the results of t-tests.

Data in Table 1 show that the mean (SD) of quality of life, self-efficacy and resiliency in fertile women are 86.62 (11.162), 64.40 (9.048), and 71.40 (11.640), respectively. The mean (standard deviation) of quality of life, self-efficacy and resiliency for infertile women are 79.13 (10.829), 58.05 (7.688), and 66.92 (10.339), respectively.

Table 1: Mean and standard deviation of quality of life, self-efficacy and resiliency in infertile and fertile women

Variable	Group	Minimum	Maximum	Mean	SD
Quality of life	Infertile	55	103	79.13	10.829
	Fertile	70	114	86.62	11.162
Self-efficacy	Infertile	43	77	58.05	7.688
	Fertile	44	85	64.40	9.048
Resiliency	Infertile	48	89	66.92	10.339
	Fertile	57	100	71.40	11.640

Table 2: T-test results for comparing infertile and fertile women in the quality of life variable

	Levene test for homogeneity of variances		T-test for equality of means				Confidence interval 95%	
	F	Significance level	T statistics	df	Significance level	Mean difference	Low	High
Assuming the equality of variances	0.008	0.931	-3.727	118	0.0001	-7.483	-11.459	-3.508
Assuming the inequality of variances	-	-	-3.727	117.892	0.0001	-7.483	-11.459	-3.508

Table 3: T-test results for comparing infertile and fertile women in the self-efficacy variable

	Levene test for homogeneity of variances		T-test for equality of means				Confidence interval 95%	
	F	Significance level	T statistics	df	Significance level	Mean difference	Low	High
Assuming the equality of variances	1.656	0.201	-4.143	118	0.0001	-6.350	-9.385	-3.315
Assuming the inequality of variances	-	-	-4.143	114.992	0.0001	-6.350	-9.386	-3.314

Table 4 T-test results for comparing infertile and fertile women in the resiliency variable

	Levene test for homogeneity of variances		T-test for equality of means				Confidence interval 95%	
	F	Significance level	T statistics	df	Significance level	Mean difference	Low	High
Assuming the equality of variances	0.954	0.331	-2.231	118	0.028	-4.483	-8.464	-0.503
Assuming the inequality of variances	-	-	-2.231	116.379	0.028	-4.483	-8.464	-0.503

Data from Tables 2, 3 and 4 show that there is a significant difference between infertile and fertile women in terms of quality of life, self-efficacy and resiliency, and the level of quality of life, self-efficacy and resiliency in infertile women is lower.

Discussion and Conclusion

Infertility is not just a gynecological illness, but also a bio-psycho-social problem that includes psychiatric problems, reduced quality of life, marital conflicts and sexual disturbances (Onat & Beji 2012). Therefore, the present study aimed to compare the quality of life, self-efficacy and resiliency in infertile and fertile women.

The present study showed that quality of life in infertile women is lower than in fertile women. This finding is in line with the results of the research by Xiaoli and others (2016), Chachamovich et al. (2010), Drosdzol and Skrzypulec (2008), Lau et al. (2008), Fekkes et al. (2003) and Alami et al. (2009). In explaining the difference in the quality of life of infertile women and fertile women, it can be said that the quality of life in infertile women is related to the amount of pressure of people around for giving birth, the intensity of desire for having a child, the burden of infertility treatment costs, an individual's assessment of the household's economic situation and irrational thoughts related to having a child and the duration and cause of infertility. Infertile women also suffer more stress and with increasing stress, their therapeutic response decreases and leads to a decline in quality of life. Attitudes toward the issue of women's infertility are often affected by racial and cultural differences, and on this basis, culture affects the quality of life of the infertile people (Inhorn & Buss, 1994). Because of the problems and consequences of infertility and a decrease in quality of life, most researchers state that the primary objective of psychosocial counseling should be the promotion of the quality of life in infertile people, regardless of their wish to have a child is fulfilled or not (Van den Broeck et al., 2010).

Another result of this study was that self-efficacy in infertile women is weaker than in fertile women. This finding is in line with the results of research by Pahlavani et al. (2002), Alizadeh et al. (2005), Nene, Coyaji and Apte (2009) and Faramarzi et al. (2014). It has been reported that self-efficacy plays a role in predicting health behaviors and quality of life. When dealing with a chronic disease, it is necessary to carry out behaviors and activities that reduce the effect of the disease on the quality of life; self-efficacy can play an important role in this regard and affect the physical, emotional and social dimensions of quality of life (Cramm et al., 2013). A study by Van der Slot et al. (2010) showed that high levels of self-efficacy in patients are associated with their better quality of life. Self-efficacy contributes to individual adaptation to symptoms of illness, and one's beliefs about controlling disease and dealing with it, prevent quality of life from being reduced (Motl & Snook, 2008).

People who see themselves as inefficient individuals avoid difficult assignments and suffer when faced with discomfort. Therefore, self-efficacy is critical to understanding the health status and quality of life. Hence, patients with higher self-efficacy report fewer effects of illnesses and better quality of life (Astrid et al., 2005). Jamshidimanesh et al. (2015) found that self-efficacy training for infertile

women had a positive effect, and a training program that included familiarity with the reproductive system, definition of infertility, prevalence, causes, diagnostic methods, treatment protocol, necessary tests, and fertility methods, enhances the self-efficacy of infertile women. People who have high self-efficacy take part in the health care program, and participation in these programs increases the quality of life of patients (Rafii, Naseh & Yadegary, 2012).

Also, the present study showed that the resiliency level in infertile women is lower than in fertile women. Some other studies have also shown that the resiliency rate in infertile people is lower than in fertile individuals (Sexton, Byrd & Kluge, 2010; Kagan et al., 2011; Lee et al., 2012). Infertility causes tension in infertile women reduces self-esteem, physical health and increases depression, stress and anxiety (Greil, Slauson-Blevins & McQuillan, 2010) and by reducing an individual's coping resources leads to low levels of resiliency (Jebraeili, Hashemi, & Nazemi, 2016). The study by Sexton, Byrd & Kluge (2010) showed that infertility reduces people's resistance to life problems, such that these people have less hardiness and resilience facing problems compared to other people. Resiliency, on the other hand, causes a logical and positive coping with the stresses and leads to a positive reassessment of events (Abbasi et al., 2014). Resilient people have self-esteem, self-efficacy, problem-solving skills, and satisfactory interpersonal relationships (Wagnild & Young, 1993). If we transfer this concept into infertile patients, it means that these patients have a good quality of life despite the fact that infertility has severe stress for them (Ridenour, Yorgason & Peterson, 2009).

According to the findings of this research and previous studies, it can be said that infertility as a gynecologic illness is associated with negative consequences such as psychopathology, loss of quality of life and marital dissatisfaction. Therefore, in addition to the medical treatment process, psychological interventions aimed at improving the mental health of infertile women is necessary.

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